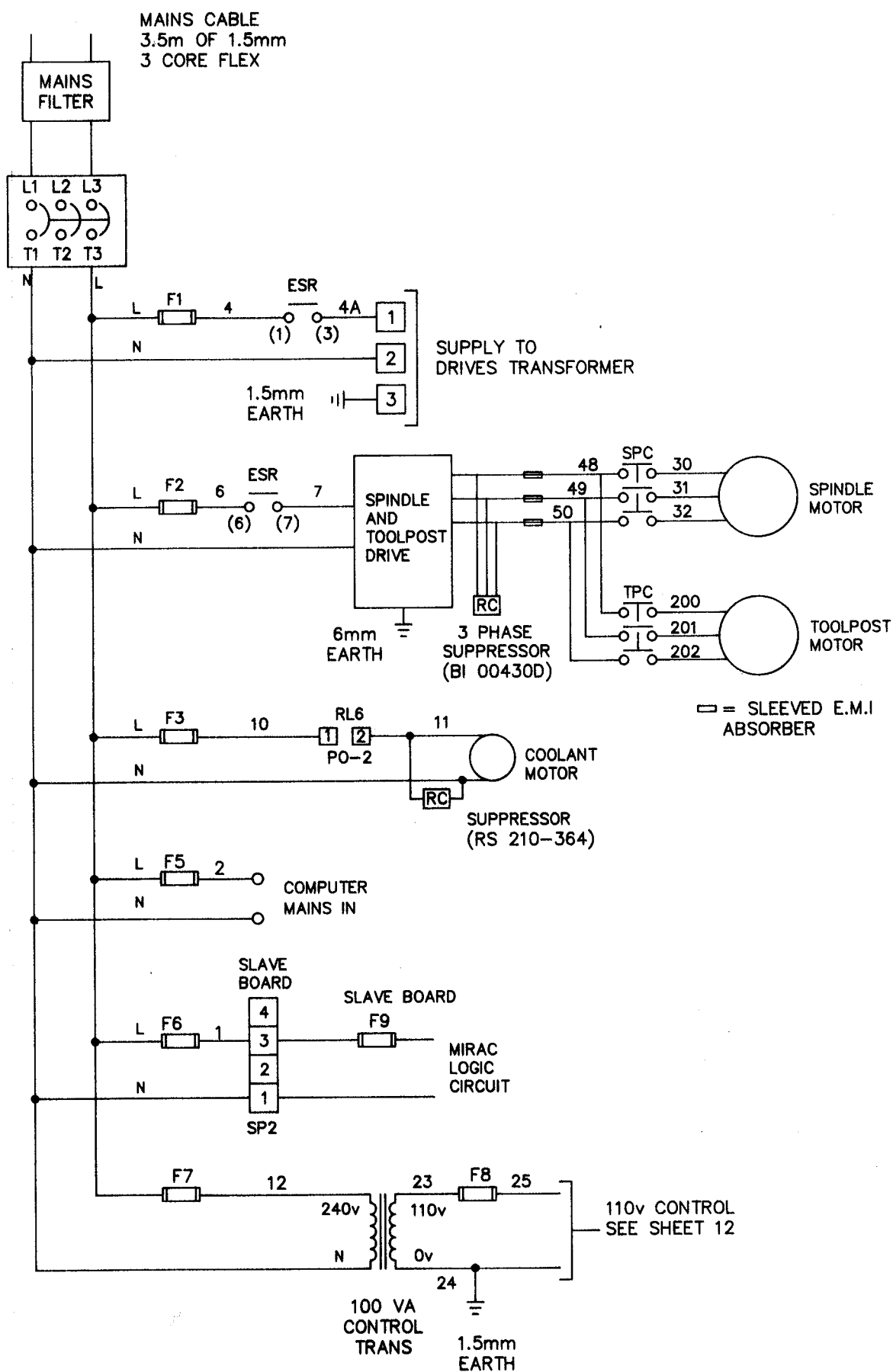


IF IN DOUBT ASK



SPC SPINDLE POWER CONTACTOR
 TPC TOOLPOST POWER CONTACTOR
 ESR EMERGENCY STOP RELAY
 PO-2 10 WAY OUTPUT CONNECTOR ON SLAVEBOARD
 R6 RELAY ON SLAVEBOARD

NUMBERS IN BRACKETS REFER TO RELAY TERMINAL NUMBERS

MIRAC
POWER SCHEMATIC
DM8 TURRET

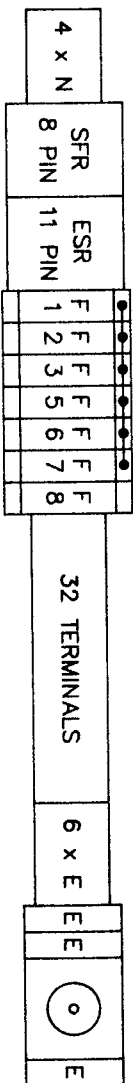
SHEET 1

[MIRAC]

GR GUARD RELAY
ONLY USED IF
TAILSTOCK FITTED

SEE SHEET 4
FOR RELAY WIRING

40 x 60 TRUNKING



6mm
EARTH

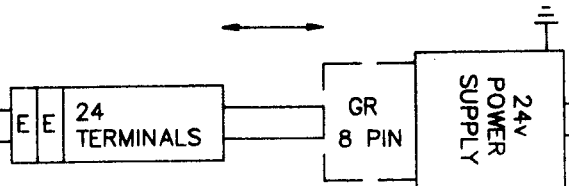
40 x 60 TRUNKING

6mm
EARTH

40 x 60 TRUNKING

DATA PROCESSING
UNIT
SEE SHEET 11
FOR LEAD DRAWINGS

50mm SPACE FOR
SOLENOID WIRING



40 x 60 TRUNKING

40 x 60 TRUNKING

SLAVE
BOARD
SEE SHEET 9
FOR DETAILS

MAINS FILTER
MOUNTED
ON BOTTOM
OF CABINET



WIRES FROM MAIN PANEL TO DOOR PANEL
1.5m FROM BOTTOM LEFT OF MAIN PANEL

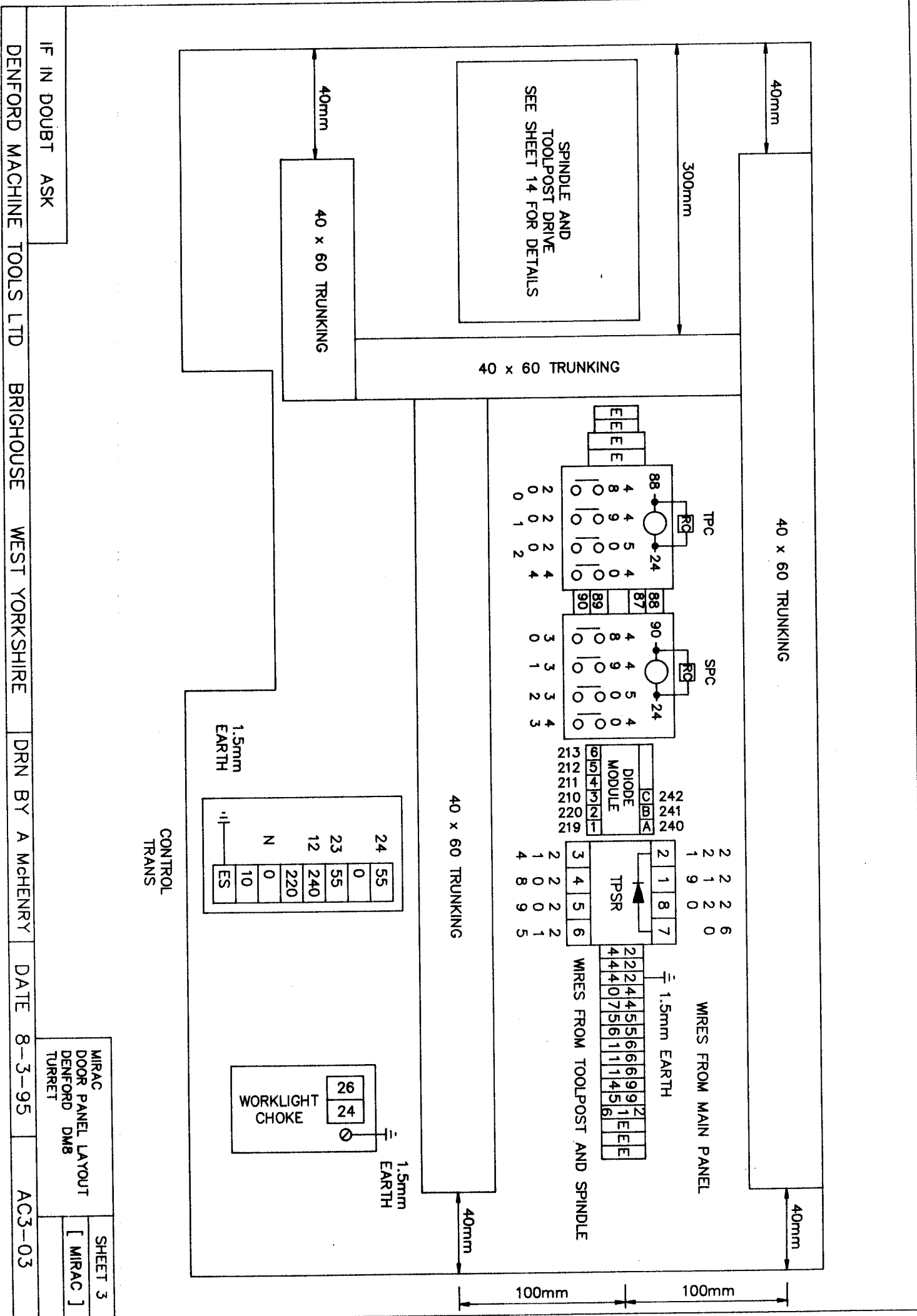
Z Z 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

+ 2 CORE SCREEN
+ 4mm EARTH

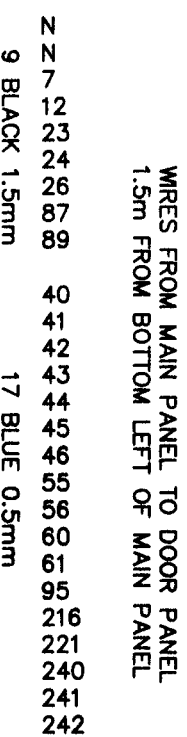
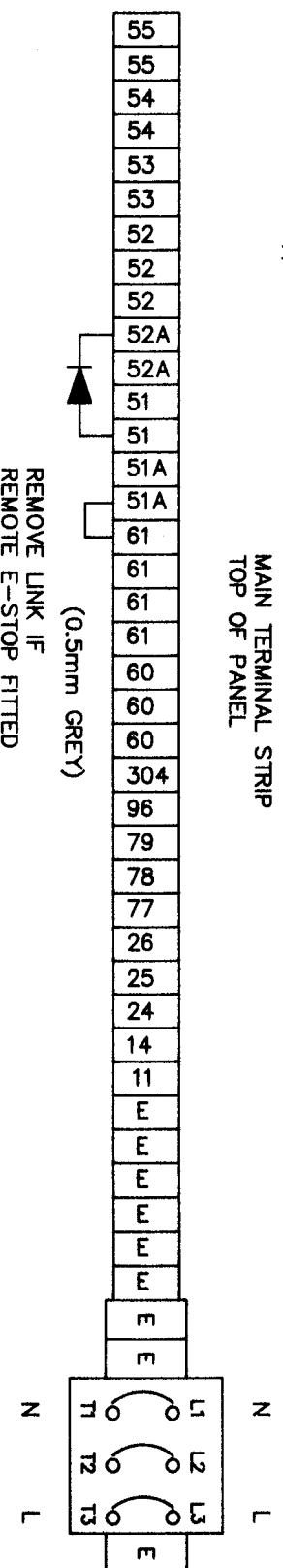
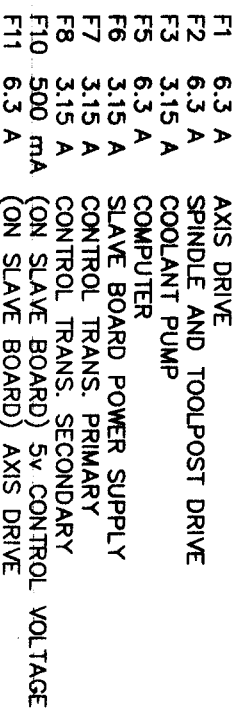
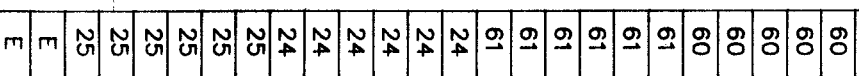
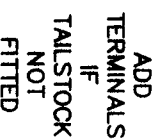
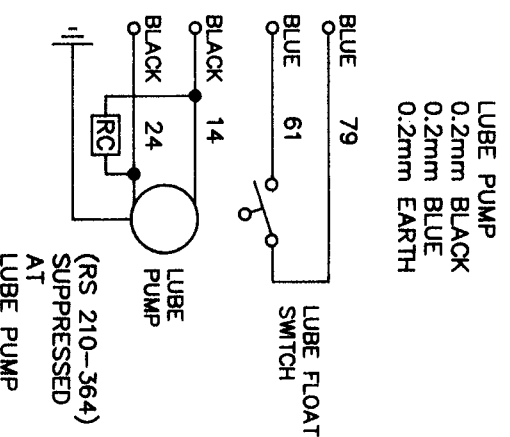
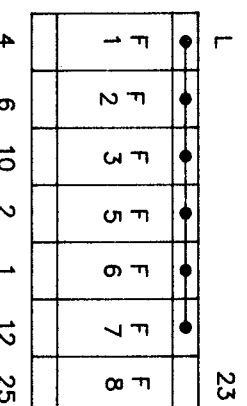
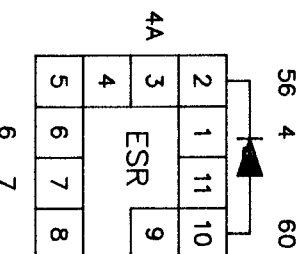
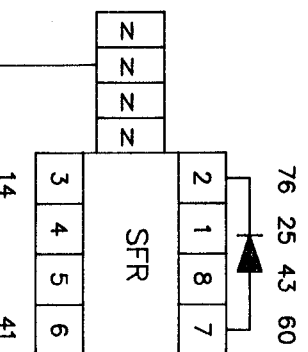
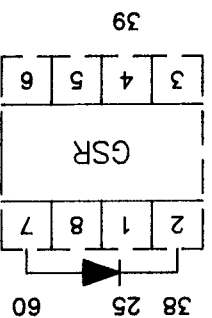
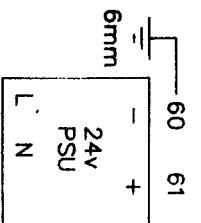
IF IN DOUBT ASK

MIRAC
MAIN PANEL
DENFORD DMB
TURRET

SHEET 2
[MIRAC]



IF IN DOUBT ASK



INPUT CONNECTORS
ARE ON THE LEFT SIDE
OF THE SLAVEBOARD

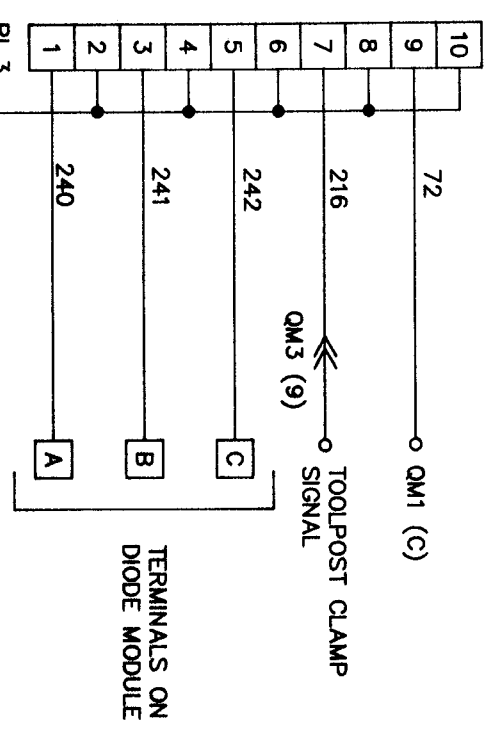
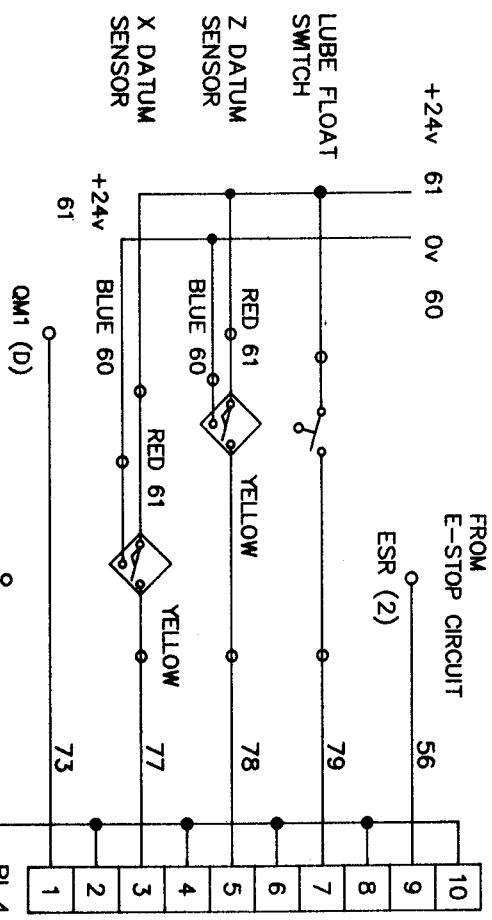
ALTERNATIVE
SENSOR
BALUFF

A= BLE 0v
+= RED 24v
-= YLW SIGNAL

CONNECTORS
PI 2 AND PI 4
ARE BELOW

CONNECTORS
PI 1 AND PI 3
ARE ON TOP

QM3 = 24 WAY QM
CONNECTOR FOR
TURRET



QM1 = 8 WAY ROUND QM
CONNECTOR FOR
AUXILIARIES

- (A) 61 (E) 74
- (B) 60 (F) 75
- (C) 72 (G) 51A
- (D) 73 (H) EARTH

0.5mm BLUE
0.5mm EARTH

PUT WIRES IN BRAIDING

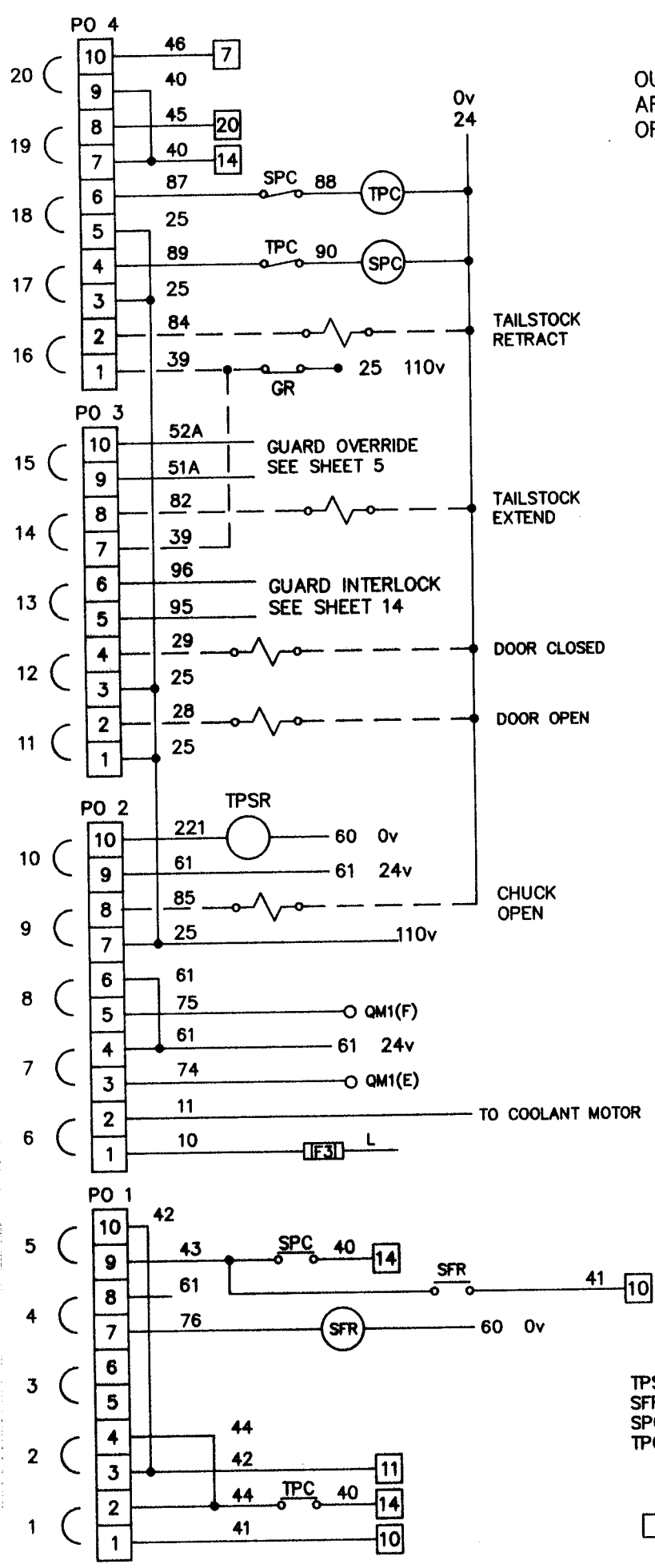
60 0v

IF IN DOUBT ASK

IF IN DOUBT ASK

MIRAC
SLAVEBOARD OUTPUTS
DENFORD DMB
TURRET

SHEET 7
[MIRAC]



OUTPUT CONNECTORS
ARE ON THE RIGHT SIDE
OF THE SLAVEBOARD

QM1 = 8 WAY ROUND QM
CONNECTOR FOR
AUXILIARIES

(A)	61	(E)	74
(B)	60	(F)	75
(C)	72	(G)	51A
(D)	73	(H)	EARTH

0.5mm BLUE
0.5mm EARTH

PUT WIRES IN BRAIDING

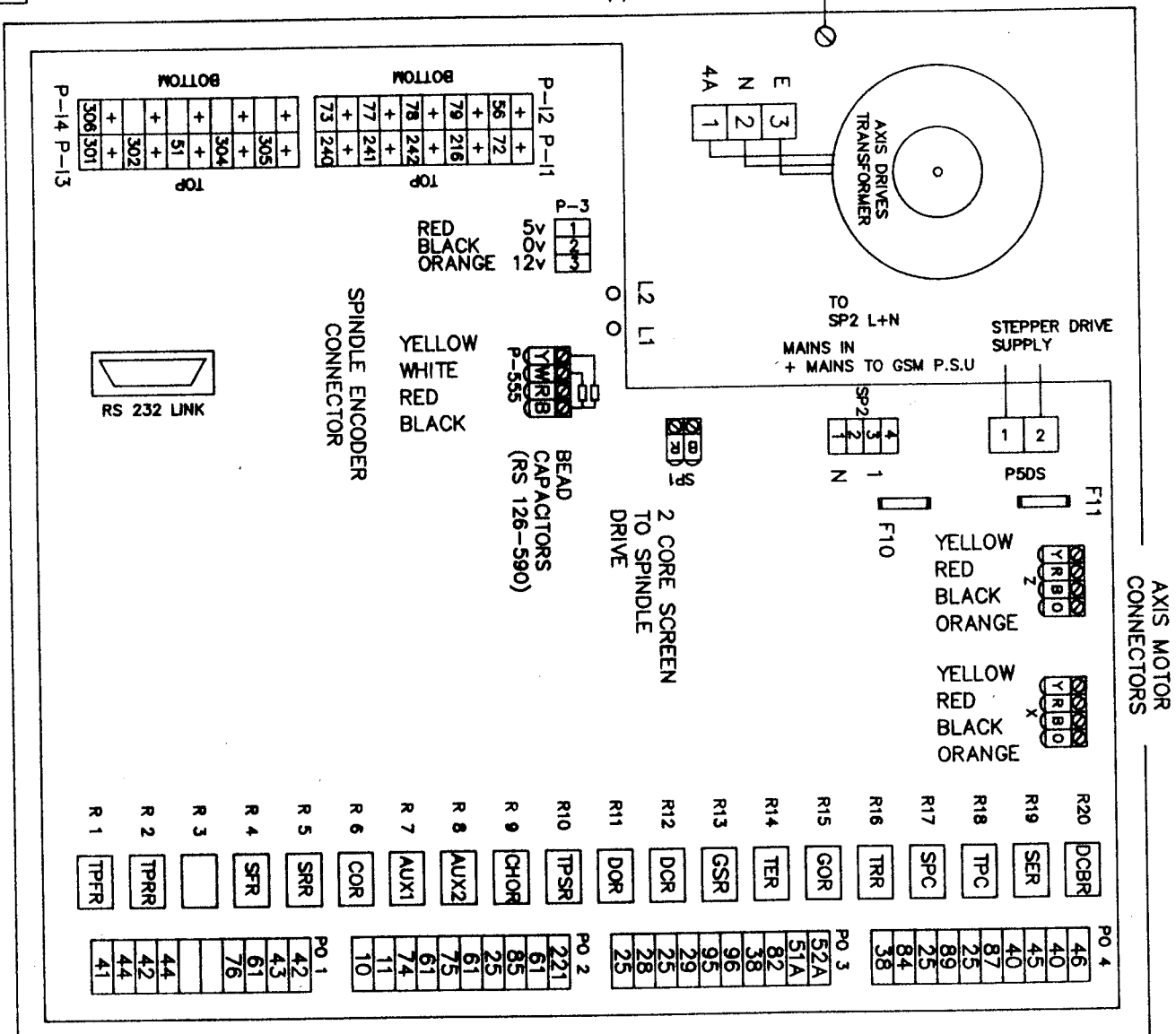
TPSR TOOL POSITION SELECT RELAY
SFR SPINDLE FORWARD RELAY
SPC SPINDLE CONTACTOR
TPC TOOLPOST CONTACTOR

□ TERMINALS ON
COMBINED DRIVE
(SPINDLE AND TOOLPOST)

F10 5V CONTROL
VOLTAGE
F11 AXIS DRIVES

LED5 ON SLAVEBOARD
L1 SPINDLE SPEED
L2 SPINDLE REFERENCE
SIGNAL

+ LINK ALL EVEN
NUMBERED TERMINALS
TO OY WIRE NO 60



DCBR	DC BRAKE RELAY
SER	SPINDLE ENABLE RELAY
TPC	TOOLPOST POWER CONTACTOR
SPC	SPINDLE POWER CONTACTOR
TRR	TAILSTOCK RETRACT RELAY

GOR	GUARD OVERRIDE RELAY
TER	TAILSTOCK EXTEND RELAY
GSR	GUARD SOLENOID RELAY
DCR	DOOR CLOSE RELAY
DOR	DOOR OPEN RELAY

	TPSR	CHOR	AUX 2	AUX 1	COR
TOOL POSITION SELECT RELAY					
CHUCK OPEN RELAY					
AUXILIARY OUTPUT 2					
AUXILIARY OUTPUT 1					
COOLANT ON RELAY					

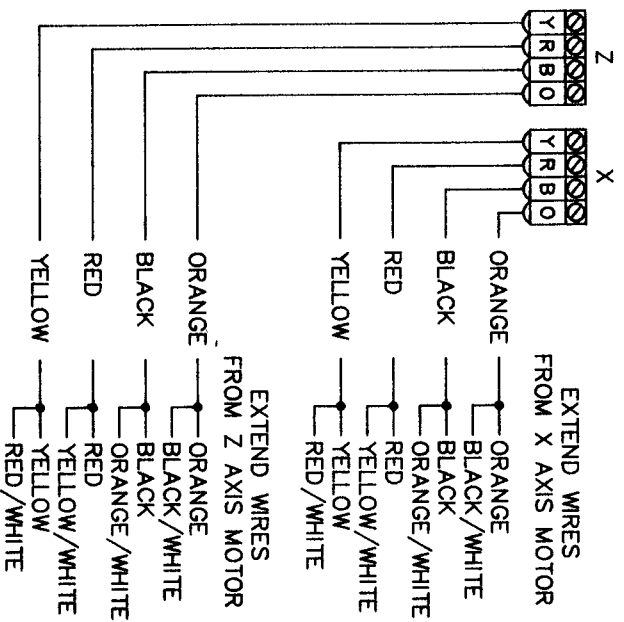
SRR	SPINDLE REVERSE RELAY
SFR	SPINDLE FORWARD RELAY
TPRR	TOOLPOST REVERSE RELAY
TPFR	TOOLPOST FORWARD RELAY

IF IN DOUBT ASK

DENFORD MACHINE TOOLS LTD	BRIGHOUSE	WEST YORKSHIRE	DRN BY A McHENRI	DAIE 9-3-93	REC-09
---------------------------	-----------	----------------	------------------	-------------	--------

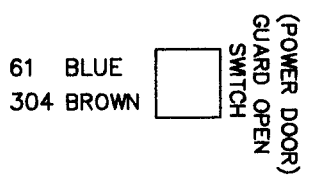
**MIRAC
SLAVEBOARD
DETAILS**

SHEET 9
[MIRAC]

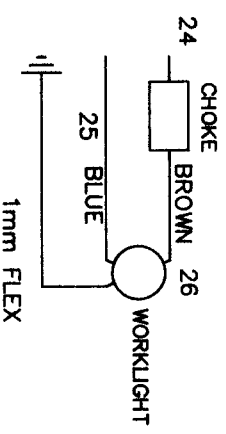
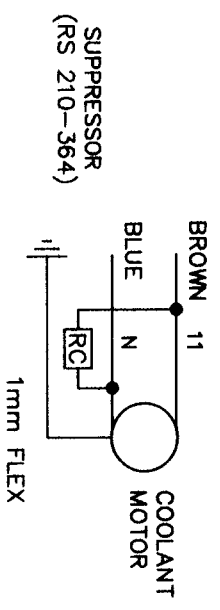
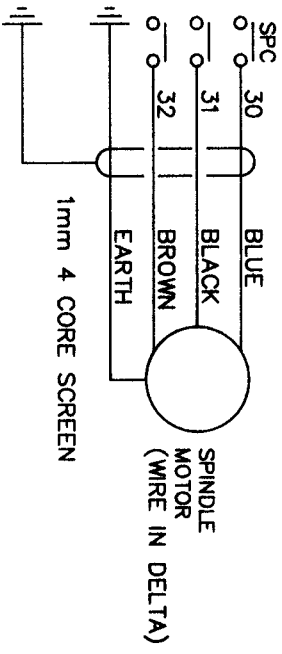
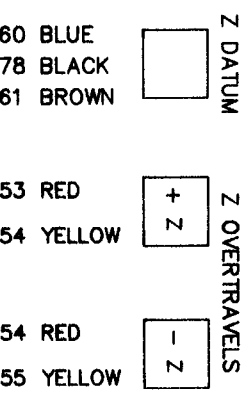


- (ALTERNATIVE COLOURS)
- (GREEN)
 - (WHITE/BLACK)
 - (GREEN/WHITE)
 - (ORANGE)
 - (RED)
 - (WHITE)
 - (RED/WHITE)
 - (BLACK)

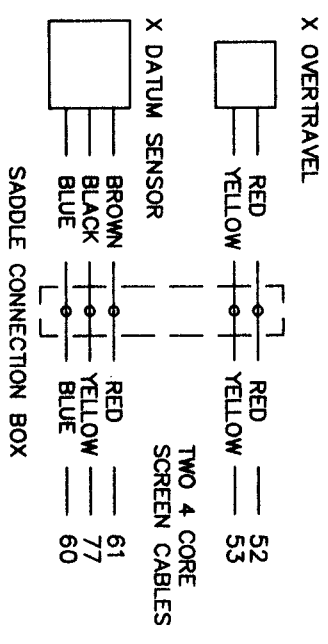
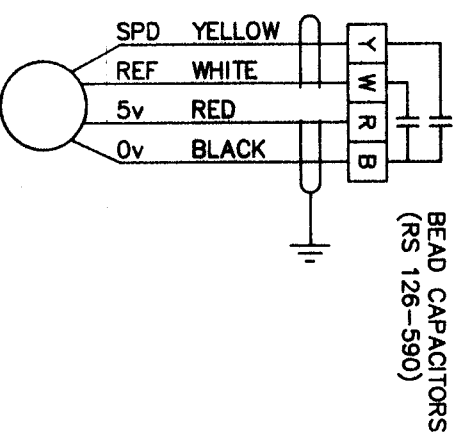
- (ALTERNATIVE COLOURS)
- (GREEN)
 - (WHITE/BLACK)
 - (GREEN/WHITE)
 - (ORANGE)
 - (RED)
 - (WHITE)
 - (RED/WHITE)
 - (BLACK)



GUARD INTERLOCK DETAILS
E-STOP CONTACT DETAILS
SEE SHEET 15

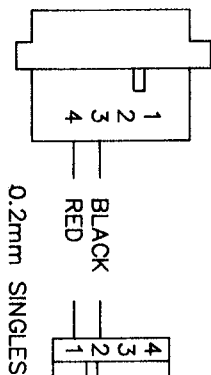


SPINDLE ENCODER
SCREEN AT
CONTROL END



USE THIS IF
NECESSARY TO
EXTEND DISC DRIVE CABLES

COMPUTER SOCKET DISC DRIVE PLUG
(BI 01812M) (BI 01812L)



0.2mm SINGLES

COM 2

COMPUTER

25 WAY D TYPE
FEMALE

KEYPAD

25 WAY D TYPE
FEMALE



8 CORE SCREEN

25 WAY D TYPE
MALE

20 WAY IDC



COMPUTER

9 WAY D TYPE
FEMALE

COM 1

CABINET

25 WAY D TYPE
MALE



8 CORE SCREEN

22

5

4

6

7

20

2

3

8

3

4

6

8

1

3

4

6

8

1

3

4

6

8

1

3

4

6

8

1

3

4

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

8 CORE SCREEN

COM 3

COM 3

25 WAY M

COM 2

25 WAY M

COM 1

9 WAY M

COM 1

15 WAY F

COM 2

25 WAY F

COM 3

25 WAY M

COM 3

25 WAY M

VIDEO

15 WAY F

KEYBOARD



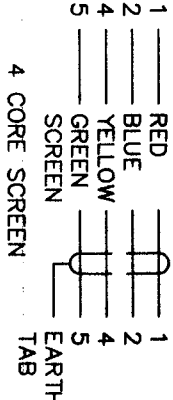
MAINS IN
3 WAY PLUG

POWER OUT
TO MONITOR

KEYBOARD CONNECTOR

5 WAY DIN PLUG
COMPUTER END

5 WAY DIN SOCKET
CABINET END



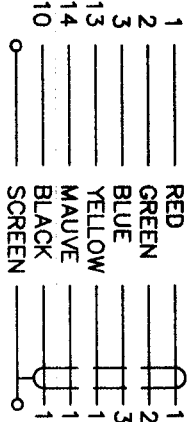
4 CORE SCREEN

COMPUTER

HIGH DENSITY
15 WAY D TYPE
MALE

MONITOR

HIGH DENSITY
15 WAY D TYPE
FEMALE



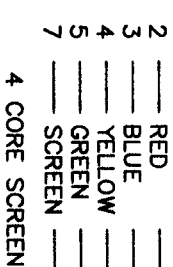
8 CORE SCREEN

COMPUTER

25 WAY D TYPE
FEMALE

SLAVEBOARD

9 WAY D TYPE
FEMALE



4 CORE SCREEN

IF IN DOUBT ASK

DENFORD MACHINE TOOLS LTD

BRIGHOUSE

WEST YORKSHIRE

DRN BY A McHENRY

DATE 9-3-95

AC3-11

MIRAC
COMPUTER
CONNECTIONS

SHEET 11

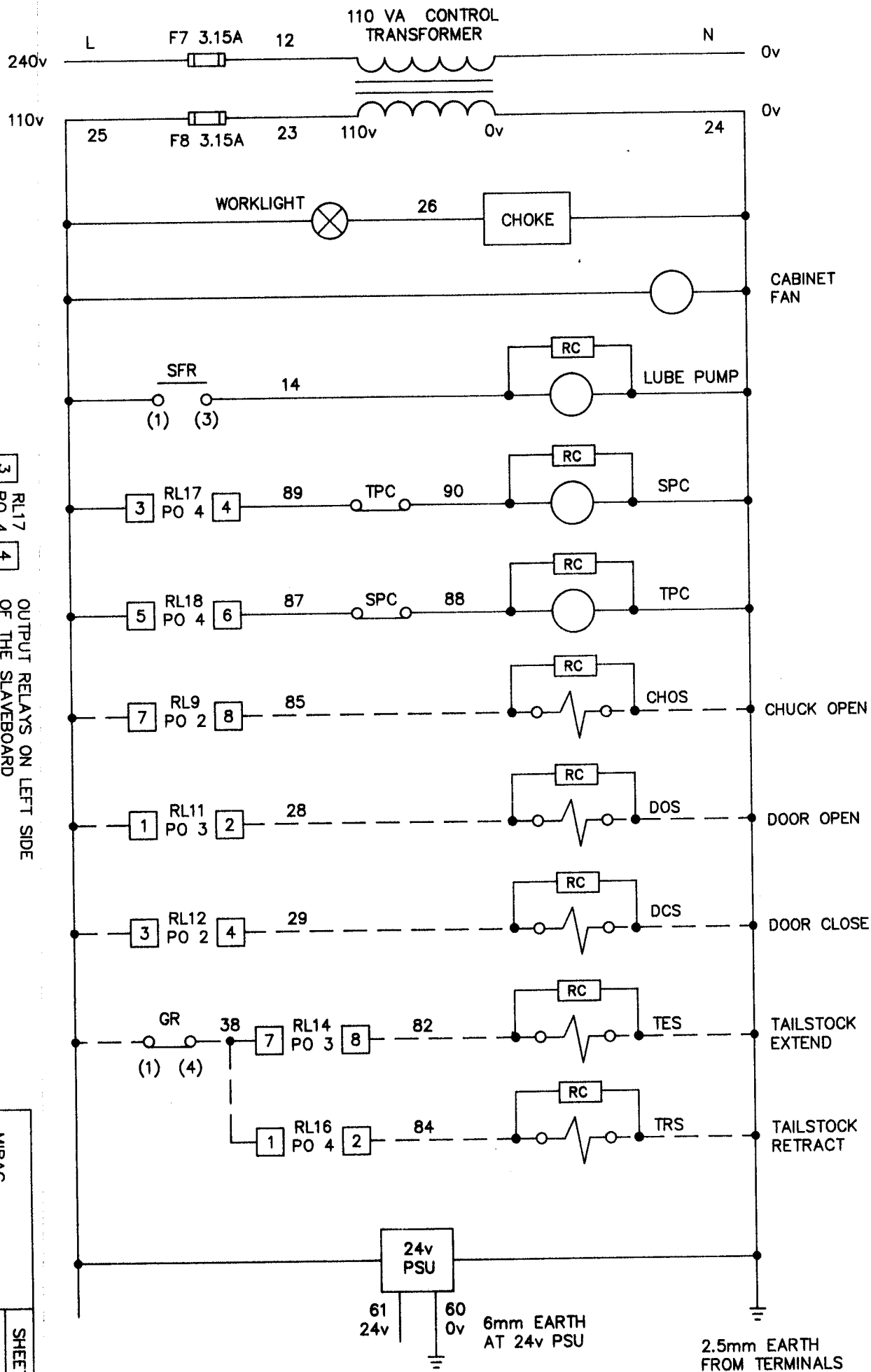
[MIRAC]

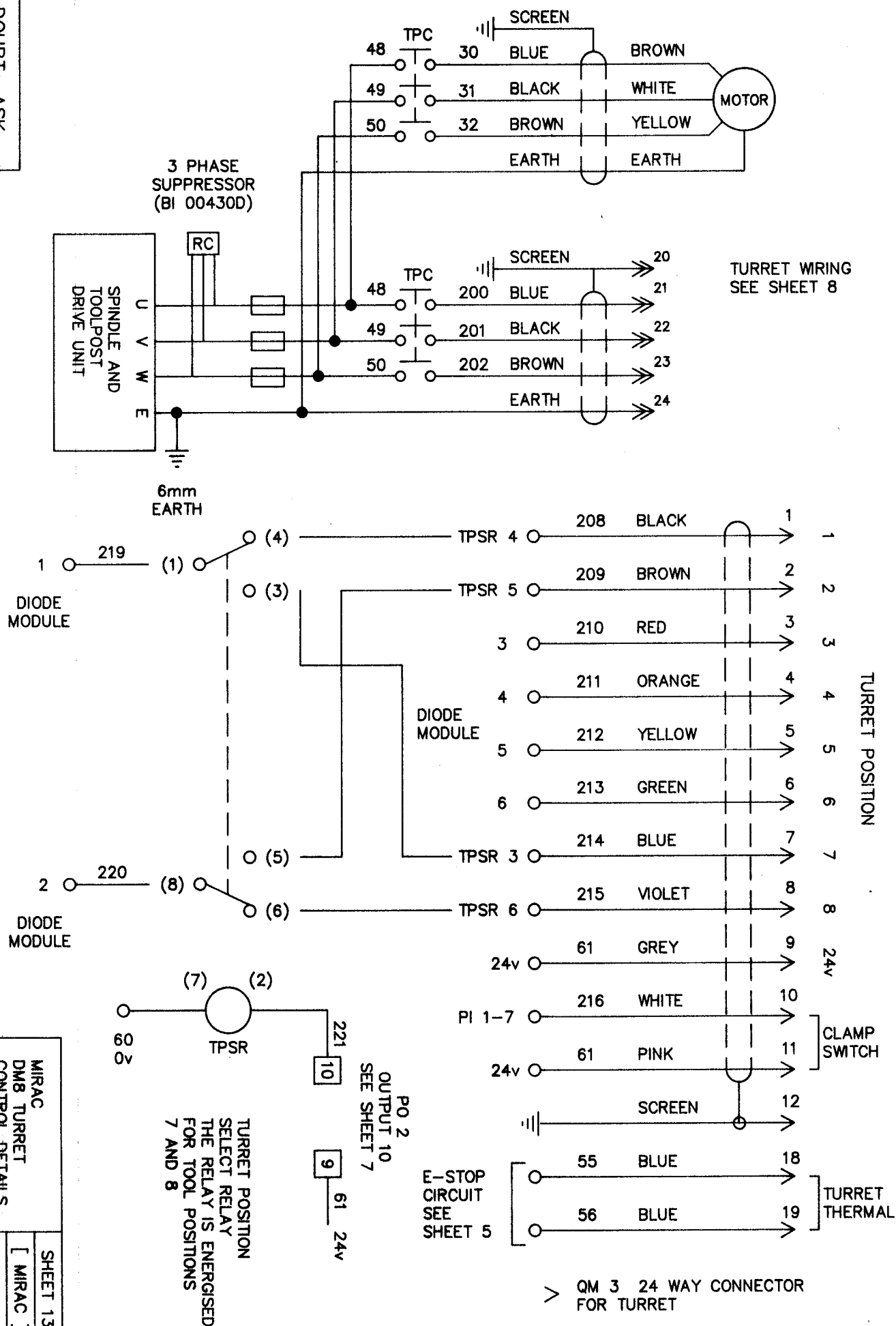
IF IN DOUBT ASK

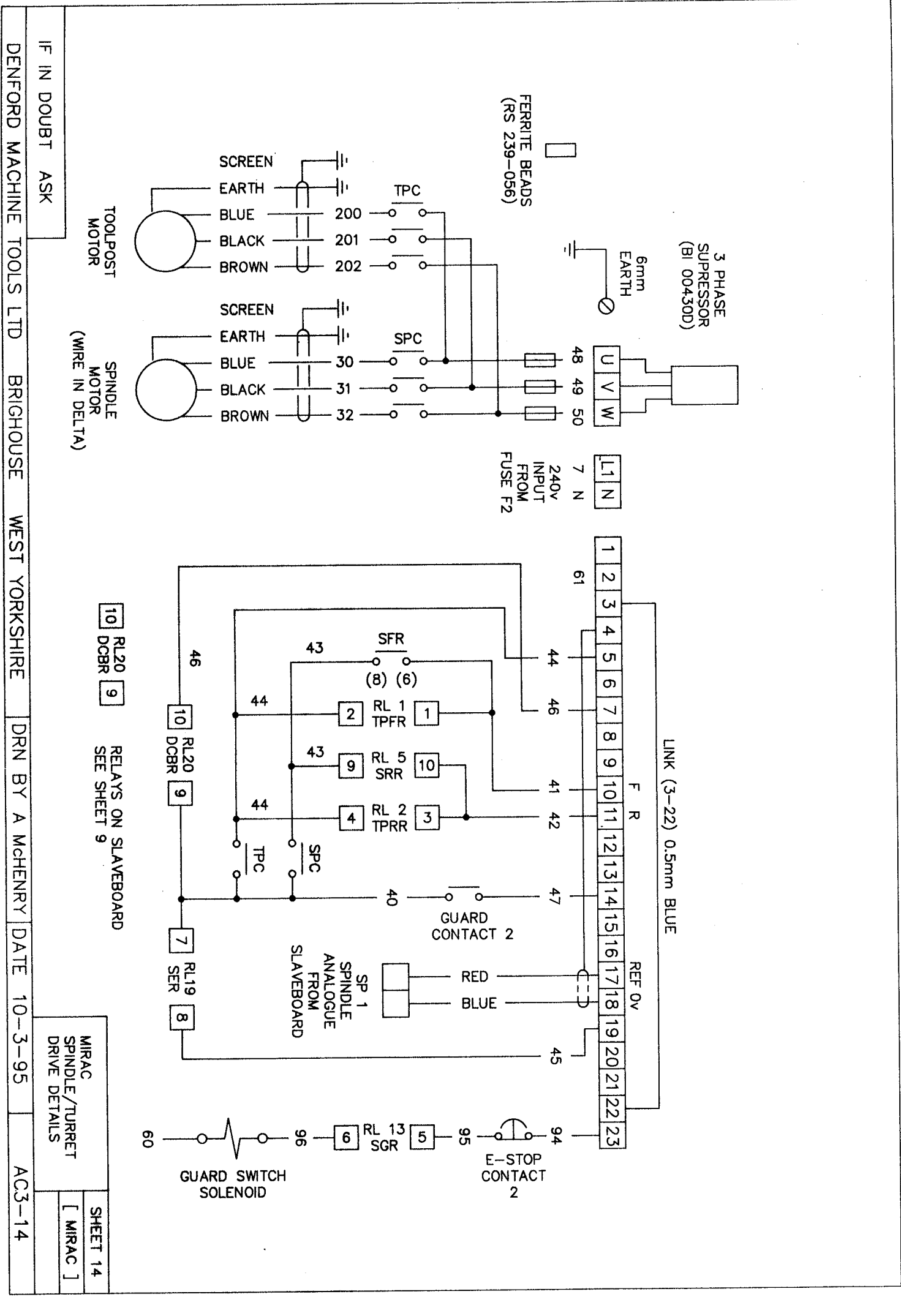
3 RL17 PO 4 4
OUTPUT RELAYS ON LEFT SIDE
OF THE SLAVEBOARD
SEE SHEET 9

MIRAC
110V SCHEMATIC

SHEET 12
[MIRAC]







IF IN DOUBT ASK

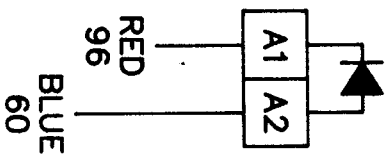
GUARD INTERLOCK
WITH SOLENOID

(REMOVE LINK 12 - 41)

GUARD
SWITCH
CONTACTS

RED	51A	51	BLUE
RED	40	47	BLUE
RED	61	38	BLUE

GUARD
SOLENOID

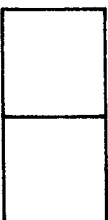


4 x 2 CORE SCREENS
FROM GUARD INTERLOCK

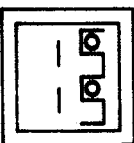
- CONTACT 1 TO MAIN PANEL
(51A 51) TERMINALS
- CONTACT 2 TO DOOR PANEL
(40 47) TERMINALS
- CONTACT 3 TO LEFT HAND SIDE
(61 38) TERMINALS
- SOLENOID TO MAIN PANEL
(96 60) TERMINALS

4 x 2 CORE SCREENS
FROM E-STOP AND PUSHBUTTONS
ON FRONT OF MACHINE

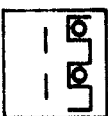
E-STOP
2 CONTACTS



COMPUTER
RESET
(+ SHIELD)



LIMIT
SWITCH
O/RIDE



- 52A RED TO MAIN PANEL
- 52 BLUE TO MAIN PANEL
- 94 RED TO DOOR PANEL
- 95 BLUE TO DOOR PANEL

- 90 RED TO COMPUTER
- 91 BLUE TO COMPUTER

- 52 RED TO MAIN PANEL
- 55 BLUE TO MAIN PANEL

SHEET 15

[MIRAC]